

generic differences in the carapace, the abdomino-femoral dermal suture crosses at the posterior third of the hyposternal bones, instead of at their middle, as in the *Adocus syntheticus*.

This species, like the last, was found in the upper bed of the Cretaceous green sand, at the works of the Pemberton Marl Company, New Jersey, by Judson C. Gaskill, the director. The name of this gentleman frequently occurs in my contributions to the paleontology of the Cretaceous, and I take the present opportunity of expressing my indebtedness for the constant liberality with which he has aided in the advance of the science. Without his attention to and enlightened interest in the subject, many interesting points in the history of the life of the Cretaceous periods would not have come to light. Those desirous of seeing one of the fine sections of the middle marl bed to be found in the state, will be repaid by a visit to the opening made under the direction of Mr. Gaskill.

EIGHTH CONTRIBUTION TO THE HERPETOLOGY OF TROPICAL AMERICA.

Read before the A. P. S., September 16, 1870.

BY E. D. COPE.

The materials whose examination has furnished the following additions to zoological science, consist of four collections. These are, first: one from Pebas, Equador, on the Amazon, from John Hauxwell; second, that made by Prof. Agassiz, of the Thayer Expedition to Brazil; third, a collection from Turk's Island, West Indies, obtained from Prof. Adrian J. Ebell; and fourthly, a small collection made by Dr. R. E. van Rijgersma at St. Eustatia.

The first collection furnished the following species in addition to those already determined by me from the same locality, in two papers, viz: in Proceedings Ac. Nat. Sciences 1868, 96, and do. of the American Philosophical Society 1869, 156.

OPHIDIA.

Erythrolamprus æsculapii.

Lygophis nicagus, Cope, Proc. Ac. Nat. Sci. Phil. 1868, p. 132.

Oxyrhopus petolaris, var. G. (Günther)

Oxyrhopus plumbeus. L.

Xenodon angustirostris? Peters.

Hydrops callostictus, Günth., Ann. Mag. N. II. tab.

Helicops chrysostictus, Cope, (*Tachynectes*) Pr. A. N. S. Phil. 1862, 71.

Thrasops ahaetulla. L.

Rhinobothryum lentiginosum Scopoli.

LACERTILIA.

Anolis nasicus.

Polychrus marmoratus.

Doryphorus castor, Cope, sp. nov.

Hyperanodon ochrocollaris Spix.

BATRACHIA.

Hyla polytaenia, Cope, Proceed. Am. Philos. Soc. 1869, 164.

Hyla leucophyllata Beireis var. *triangulum* Gthr; see Cope, l. c. p. 156.

*Hypsiboas** *punctatus* Daud. Dum. Bibr. etc. Of a pink color in the yellow dots, in life.

Hypsiboas hypselops, Cope, sp. nov.

Hypsiboas lanciformis, Cope, sp. nov.

Scytopis (*Dryomelictes*) *aurantiacus* Dandin.

Pithecopus tomopternus, Cope, Proc. Acad. Nat. Sci. 1868, 112.

Pithecopus tarsius, Cope, l. c. 113.

Phyllomedusa scleroderma, Cope, l. c. 112; very large examples.

Coccolia.

HYPYSIBOAS HYPSELOPS, Cope, *sp. nov.*

Of the group of *H. crepitans* Wied. The fingers are not webbed beyond the basis of the proximal phalanges, except perhaps on the external one. When the arm is extended, they reach a trifle beyond the groin. The hind limb extended brings the heel a little beyond the muzzle. The general form is slender; the head broad and flat. The canthus rostralis is distinct, but very concave, and the rostrals prominent on a narrow truncate muzzle. The outline of the head is rather acuminate to the apex, intermediate in form between *H. crepitans* and *H. boans*. The eyes are very large and prominent, entering only 1.5 times in the rather elongate muzzle. The tympanum is small, one-third the orbit in diameter and one-half the interorbital width. Dermal free, margins none; a slightly prominent fold on the elbow and spur on the heel, only a prominence on the other. Skin above smooth. Digital dilatations hardly .50 diameter of tympanic membrane.

Color, above bright chestnut brown, below pale violet; no marks on the head or back. Upper arm of the same color, as is a band on superior face femur. Front and back of femur, sides .66 of distance to axilla, and intero-anterior face of tarsus and metatarsus, with vertical black bands. They are very distinct and wider on the front than the back of the femur; the latter connect faintly above. Three or four faint cross bars on tibia above. Two black spots on back of brachium, and one or two on front of ante-brachium.

Vomerine tooth series arched as in other species, tongue broad. Ostia pharyngea very small, one-fourth choanae.

Length of head and body, 0m. 056; of hind limb, .091m; of foot .038m; of tarsus .02; width of jaws below tympanum .02; length from same point (axial) .016.

The acuminate muzzle, larger eye, and anterior femoral bars, distinguish this from the *H. crepitans*. The same characters separate it from *H. indris*, with the additional ones of smaller tympanum and larger limbs.

From Pebas Equador, Jno. Hauxwell's collections.

*The name of the allied genus *Cinclidium*, Journ. Ac. N. Sci. 1867, 200, having been used before for a valid genus of plants, I propose to change it to *Cincloscopus*.

HYPSIBOAS INDRIS, Cope.

Journ. Ac. Nat. Sci. Phila. 1867, 201.

This species with the small feet and dilations of the *H. crepitans*, exhibits the broader head of the *H. lepreurii* type, with the vomerine series incurved anteriorly as in the majority of species of the genus. The spur on the thumb is smaller than in any species of the genus in the single specimen at our disposal, and the antibrachial and tarsal folds are distinct. Gular region smooth. There is a cross band between the eyes darker than the ground color; the femora are crossed above by broad, rather indistinct cross-bands very different from those on the posterior face, and similar to those on the tibia; in *H. circumdatus*, the same narrow black bands are continued from behind to the front of the tarsus, without interruption. Indistinct brown markings on the labial regions.

The shorter hind limbs, distinguish this species from the *H. crepitans*.
Habitat Surinam *Hering*. Mus. Academy Nat. Science, Philada.

HYPSIBOAS CIRCUMDATUS, Cope.

Journ. Ac. Nat. Sci. Philada. 1867, 201.

Breadth of cranium at tympanum equal from end muzzle to opposite middle line of humerus; canthus rostralis little marked, concave. Sacral width twice in coccyx, three times from articulation of latter to opposite outer canthus of eyes. Tympanum two-thirds ocular opening. Vomerine series width divergent, oblique, scarcely curved; palmation of band to middle antepenultimate of foot to origin of penultimate phalange of longest toe. Thumb an incurved unusually elongate osseous spur. Areolations wanting on the breast, upper and under lip indistinctly yellow margined. Femoral bands ten, blackish, very narrow and nearly surrounding the leg: seven broader cross the tibia.

This species differs from the *H. palmata* in its much shorter palmation, smaller size and different coloration; from the *H. crepitans*, in its stouter form, and much stouter feet and hands, and different coloration, comparative measurements given under the head of the latter exhibit this.

Habitat, Brazil, no. Mus. Compar. Zoology, one specimen.

The thumb-spur of this species is more striking than in any other of the genus.

	H. crepitans and H. circumdatus.			
	in	line	in	line
End muzzle to end coccyx.....	2	3	2	8
do do origin coccyx.....	1	5.75	1	9.75
do do poster. marg. tympanum		8.5		10
Width cranium at latter point.....		9.5		11.25
From muzzle to opps't outer canthus eyes		3		4
Anterior extremity.....	1	5.5	1	9.25
Carpus and longest digit.....		8.5		9.25
Posterior extremity.....	3	10.25	4	9.25
Tibia.....	1	2	1	5
Tarsus.....		8.5		10
Metatarsus and longest digit.....		10		13.25

The three species just described have the palmation of the toes extend-

ing to the base of the third phalange. In *H. fasciatus* Gthr. the web only extends to the base of the second.

HYSIBOAS LANCIFORMIS, Cope. *Sp. nov.*

This is a large species of the *H. boans* group. It is characterized by its elongate acuminate head, with nearly straight, sharp canthus rostralis and vertical concave loreal region. Eyes prominent, large, their diameter twice in length of muzzle, equal to interorbital width, and not quite twice the diameter of the membranum tympani. A prominent dermal fold proceeds from it, overhanging the tympanum, to near the middle of the side; its margin is roughly glandular. No dermal margins nor spurs on the limbs. Fingers not webbed beyond the metacarpals; reaching when the limb is extended, to the hind face of the femur. Hind limbs very long, the muzzle making the second third of the extended tibia. Web extending to the end of the second phalange of the fourth toe of the foot. Ostia pharyngea small, one-fifth of the very large choanæ. Tongue oval, longer than wide. Vomerine teeth forming two angulate series, the two short limbs of the angle uniting on the median line, without interruption. Finger-dilatations large, not quite half the tympanum in diameter.

Color, bright chestnut brown above and on the sides, shading into smoky in the groin. The whole under surface a dark maroon. A black band passes from the end of the muzzle, as wide as the loreal region, through the eye and tympanum to along the axilla. Upper lip with a broad yellow band, interrupted on the premaxillary apex, and continued a short distance in front of the canthus oris on the mandible. No cross bars or bands on the sides or limbs; femur behind and before, smoky maroon. A few irregular scattered dots on the back, and an indistinct series of fourteen brown cross bands on the back and head. Dilatations of the three inner fingers yellow above. Length, head and body, 0m.087; of hind limb .158m.; of foot .067; of tarsus .033. Width of sacrum .016; of head below posterior margin of tympana .028m.; length (axial) from same point .027. Length of fore limb .05m.

This peculiar species resembles externally, a Polypedates. It need only be compared to the *Hypsiboas boans* D. B. and *H. oxyrhina* R. and L. From the former it differs in the entire absence of black or other colored bars on the femora and flanks, in the darker coloration of the under surfaces, etc., and the more elongate, lance-shaped head. Its thumb spur is much weaker than in most species of the genus. From *H. oxyrhina* it differs much in coloration and in the longer hind limbs. Thus according to Reinhardt, and Lütken in that species, the proportion of their length to the total is, .107m. to .075m.; that is, 1.33 per cent. In *H. lanciformis*, the proportion is 1.81. The white margins of the limbs, breast and lower lip as well as the marbled coloration described by these authors; are here entirely wanting. Pebas, Equador. J. Hauxwell's collection.

DORYPHORUS CASTOR, Cope. *Sp. nov.*

Scales of the abdomen weakly keeled, nearly equal to those of the back, which are more strongly keeled. Scales of the sides scarcely smaller than

either. Gular fold moderate, its scales subequal. Mental scales uniform, smooth. No auricular scales; temporal scales rough. Occipital plate large, longer than wide; interorbital series three; muzzle scales large smooth, polygonal, only four rows between canthus rostralis. One canthal scale; two loreal rows; nostril between two scales; labials (large) 5—6. Oblique folds on sides of neck. The arm extended reaches the middle of the femur; the leg, the tympanic drum. Body slender; tail perfectly flat, wider than the body, with 35 cross-rows of keeled scales, which are only produced into spines at the edge of the tail.

Color, blackish olive, gradually lighter to the head, which is thickly black spotted on a green ground. A broad crescentic black collar which is broadly light margined behind, much more indistinctly before. The posterior border is against broadly margined with black behind. Limbs closely green spotted on a blackish ground. Tail uniform brown. Belly black, on the sides dark green, medially, femora dark.

Total length, 0m.093; from muzzle to angle of mandible, .016; to collar, .021; to vent, .06; length fore limb, .032; of hind limb, .038; width head at mandibular angles, .01.

From Pebas Equador; J. Hauxwell's collection.

TRETIOSCINCUS LEVICAUDUS, Cope. *sp. nov.*

Scales large, those of both body and tail, entirely smooth. Several behind the occipital plates larger than the others. Limbs short. Size about that of the *T. bifasciatus*.

Color, a dark clear olive above; paler below, a light green band from the temporal region along the canthus rostralis to the end of the muzzle, and another parallel along the upper lip. No other markings.

From Occidental Department, Nicaragua. Discovered by J. A. MacNeil, a successful explorer of that region. Mus. Essex Institute, and Acad. Nat. Science.

This Epleopod, differs from its congener *T. bifasciatus* Dum. in the absence of carinæ on the caudal scales, and in other points, and in the coloration.

HOMALOCHILUS CHRYSOGASTER, Cope. *sp. nov.*

General form quite slender, the head narrow. Scales in forty-three longitudinal series, those of the median larger than the lateral. Occipital and parietal regions covered with numerous enlarged smooth polygonal scales. Two short longitudinal plates represent the frontal; each is in immediate contact with the superciliary of its side, which exceeds it in length. Three pair of supranasals, the anterior not separated from the anterior nasal; six scales in two cross rows in the place of the prefrontals bound the superciliaries and frontals in front. Superciliaries undivided. Nasal a little higher than wide, the apex visible from above. Two loreals, the anterior larger; two prococulars, the superior large, the inferior in place of the summit of the sixth and seventh labials. Four postoculars, the superior bounding the posterior margin of the superciliary. Superior labials fourteen, seventh and eighth entering the orbit. Inferior labials

fourteen ; anterior four, very elongate inward. Gastrosteges, 255 ; anal, 1 ; urosteges, 78.

Color, light fawn brown above, below golden yellow. A series of fifty-four deep brown spots extend on the dorsal region to opposite the vent, and seventeen on the tail, in the individual described. These spots are darker edged and are occasionally confluent into a short irregular band. They are often transverse and are generally twelve scales wide, and three or four long.

Length .0m 665 ; of tail, .108 ; rictus ovis, .016.

From Turk's Island, obtained by my friend, Professor Adrian J. Ebell. This Boa is very distinct from the Homalochilus heretofore described, and exhibits a decided tendency to Ungalia, especially to such species as *U. dipsadina*. The species of Homalochilus Fischer, are ; *H. multisectus*, Cope, Proc. A. N. Science, Philadelphia, 1862, 70. *H. striatus*, Fischer, Abh. Natur. Hamburg. 1856, 101. *H. strigilatus*, Cope, l. c. p. 71 ; *H. chrysogaster*, Cope, supra, and *H. tortilis*, Jan. (*Dendophilus tortilis* Jan. Iconographie des Ophidiens Plate). The last named belongs here, as I learned from a study of the type specimen in the Mus. Milan. It differs very much from the species above described, but I cannot now point out its characters, having mislaid my MS. description. The *Epicrates versicolor* of Steindachner, beautifully figured in the Denkschriften of the Wiener Academie, belongs to this genus, and appears to be *H. strigilatus* m., previously named.

The collection from Turk's Island embraced the following species :

Homalochilus chysogaster, Cope.

Mabuia cepedei, Gray.

Anolis ordinatus, Cope, Pr. A. N. Sci. Phila. 1864, 175.

Cyclura (*Ctenosaura*) carinata, Harlan Jour. A. N. Sci. IV, p. 242.

I would here notice that Dr. John Gündlach, has published in the Repertorio Físico, etc., de Cuba, 1868, a catalogue of the Batrachia and Reptila of the Island of Cuba, which furnishes a desideratum of long standing. I observe, however, that he interjects assertions as to the probability of several of my species being synonymes of others, as *Anolis porcus*, *A. isolepis*, *Liocephalus raviceps* and *macropus*, etc. As I suspect that these suggestions are not original with Dr. Gündlach, I will observe that as a general rule, it is unsafe for American naturalists to rely on assertions of some Continental European zoologists, as to identity of the species of each other, or of American zoologists, since it is an old practice, the offspring of autoeracy rather than of science, and which deceives only temporarily.

ENULIUS MURINUS, Cope. gen. et. sp. nov.

Char. Genericus. Palatine, pherygoid, and anterior portion of maxillary bones edentulous ; a long, strong grooved tooth on the posterior part of the maxillary bone. Internasal plates present ; rostral prominent depressed ; two distinct nasals, a loreal, no preocular, two postoculars.

Scales smooth, with one apical pore-pit. Anal plate and subcaudals double.

This genus has head-shields arranged like those of *Rhegnops*, Cope, (Proc. Acad. Nat. Sci. Phil. 1866, 128), but the dentition is entirely distinct. It is nearer to *Tantilia* B. and G. but that genus does not present the edentulus characters, and exhibits a preocular instead of a loreal plate. The pupil is round. The general form is slender for a Calamari-nae serpent, and the tail is unusually elongate; the head is not distinct.

Char. Specificus. Scales in sixteen or seventeen rows. Labials 6-7, third and fourth in orbit. Two postorbitals; temporals, 1-2-3. Rostral broad, crescent shaped; internasals half as large as prefrontals. Frontal nearly triangular, with apex behind; anterior border strongly convex. Superciliaries sub-triangular, with short apex anterior. Occipitals elongate. Geneials one pair followed by a row of three scales. The tail measures between one-third and one-fourth of the total length, nearer one-third, but the only specimen now by me has the extremity mutilated. Gastrosteges, 216. Length of a specimen, 0m.220; other larger ones are not now before me.

Color, mouse-color above, white below, a pale spot on each nasal plate, and a dusky one on each side behind the rictus oris. From Chinandega, in the Occidental department, Nicaragua, discovered by J. H. McNiel. Several specimens were taken from a well, forty feet deep.

This species in scutellation and form of head is related to the Calamari-nae, and it is doubtless a borrower, but its scale pores and long tail are exceptional features.

CONTRIBUTION TO THE ICHTHYOLOGY OF THE MARAÑÓN.

(Read before the Amer. Phil. Soc. Aug. 19 1870.)

BY E. D. COPE, A. M.

CHARACINIDÆ.

TETRAGONOPTERUS ORIENTALIS, Cope.

D. 11, A. 29; scales 7-37-8. The depth of the body one-half the length (without caudal fin); the head one-fourth of the same. Dorsal fin above a point a short distance behind the origin of the ventrals. Anterior anal rays not elongate. Diameter one-third length of head, 1.5 times in the convex interorbital width. The extremity of the mandible extends a little beyond the line of the anterior rim of the orbit. Pectoral extending a little beyond basis of ventrals. A broad silver band from upper opening of operculum to caudal, with a black spot near each end. Length 0.097 M.

From Para. Mus. J. Carson Brevoort.

TETRAGONOPTERUS STILBEE. Cope.

Depth contained 2.4 times in length (without caudal); length of head 3.5 times in the same. Radii, D. 11, A. 38, scales 8-39-10. Interorbital width equal that of eye, and one-third length of head. Dorsal